

in the accompanying corrected drawing sheet and as shown in the replacement drawing sheet 5/5.

REMARKS

The application has been amended to meet the formal application requirements.

FIG. 13 was not included in the original application as filed. Therefore all references to original FIG. 13 have been deleted from the specification and the specification has been amended to change the subsequent figure numbers each to a lower figure number: FIG. 14 to FIG. 13, FIG. 15 to FIG. 14, and FIGS. 16 and 16A to FIGS. 15 and 15A.

An Abstract not to exceed 150 words in length was required.

The Abstract of the Disclosure has been amended to be less than 150 words. A substitute page containing the amended Abstract of the Disclosure is also filed herewith and a mark-up of the original Abstract showing changes in red.

Drawing sheet 5/5 was amended to change the figure numbers to make each figure number higher than 13 reduced by one number, since FIG. 13 was not filed with the original application and the references to original FIG. 13 have been deleted from the specification. A replacement drawing sheet 5/5 is enclosed and an original drawing sheet 5/5 with corrections shown in red.

In view of the above amendments and remarks, the application is now seen to be proper and examination of the application is respectfully requested.

No additional fee is seen to be due.



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Serial No. 09/805,711 Group 3764

Respectfully submitted,

Donald W. Meeker

Donald W. Meeker

Patent Agent of Record

Registration No. 28,792

Telephone (415) 668-6296

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Abstract of the Disclosure

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5 An inclined monorail mounts between an adjustable front stanchion and lower rear stanchion. A roller carriage, having a padded bench or seat and spool-shaped rollers, rolls on the monorail. Elasticized tension straps attach between the roller carriage and the front or the rear stanchion to assist or resist the movement of the roller carriage. The user pulls on interchangeable handles either on pull straps on a front bar or a cable pulley system attached to the front stanchion and to the roller carriage to exercise and simulate various sports movements while moving on the roller carriage. The stanchions pivot flat onto the monorail to transport the apparatus on a stanchion wheel or mount it vertically on a wall bracket and the cable pulley system lifts the roller carriage vertically with weights on the roller carriage. A detachable foot platform attaches to the rear stanchion for performing leg exercises.

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Abstract of the Disclosure

~~An exercise machine has a height adjustable front stanchion assembly with a~~
~~telescoping tube having a quick release locking mechanism and a lower rear stanchion~~
~~assembly. An inclined monorail is mounted between the stanchion assemblies, and a roller~~
~~carriage assembly having spool-shaped rollers, is mounted so as to receive the monorail,~~
~~and roll upon it. Alternately larger roller carriage rollers roll within channels in the~~
~~monorail. Any of variously tensioned straps is attachable between the roller carriage and~~
~~either the front stanchion assembly or the rear stanchion assembly to assist or resist the~~
~~movement of the roller carriage assembly up the inclined monorail. The roller carriage is~~
~~adapted so that a padded bench assembly and a bicycle seat assembly may be~~
~~interchangeably rigidly secured to the roller carriage assembly. A rigid bar mounted on the~~
~~front stanchion retains pull straps grasped by a user to pull the user mounted on the roller~~
~~carriage up the inclined monorail. Alternately a cable pulley system is attached to the front~~
~~stanchion and to the roller carriage for pulling the roller carriage. Various handles are~~
~~attached to the pull straps and pull cables to be grasped by the user in simulating various~~
~~sports movements while moving the roller carriage. The user may be mounted on the~~
~~roller carriage or positioned beside the apparatus. The stanchion assemblies are pivotable~~
~~and may be pivoted parallel to the monorail in a flat configuration and the apparatus~~
~~transported by rolling on a wheel on one of the stanchions. In the flat configuration, the~~
~~apparatus may be mounted vertically on a wall bracket and the pulley and cable system~~

mounts an adjustable front stanchion and lower rear
 a padded bench or seat and
 Elasticized tension attach
 The
 pulls on interchangeable handles either on pull straps on a front bar or
 using the cable pulley system
 stanchions pivot flat onto to transport
 stanchion
 mounts or mount it pulley

~~used to lift~~ the roller carriage vertically. ~~A bracket and bar are provided to add variously~~
~~sized weights to~~ the roller carriage. ~~Foot and head supports may also be added to the~~
~~roller carriage system. An orthogonal foot platform may be attached to the rear stanchion.~~

lifts
with
on
A detachable
attaches
for performing
leg exercises

FIG. 12 is a side elevational view of a portion the FIG. 4 embodiment of the invention in which the padded swim bench of FIG. 11 is substituted for the bicycle seat shown in FIG. 4;

~~FIG. 13 is a side elevational view of the preferred embodiment of the invention of FIG. 1 shown with a user standing adjacent to the apparatus using a pulley cable system of the invention to exercise;~~

¹³
FIG. ~~14~~ is a cross-sectional view taken through an alternative roller carriage padded bench 110 and monorail 29A of an alternate embodiment of the invention of FIG. 1;

¹⁴
10 FIG. ~~15~~ is a cross-sectional view taken through another alternative roller carriage padded bench having plate 111A and monorail 229 of an alternate embodiment of the invention of FIG. 1;

¹⁵
FIG. ~~16~~ is a cross-sectional view taken through an alternate embodiment the front stanchion at the locking mechanism 150;

^{15A}
15 FIG. ~~16A~~ is a cross-sectional view taken through the alternate embodiment of the front stanchion of FIG. ~~16~~ at an alternate embodiment of the locking mechanism 150A.

Detailed Description of The Preferred Embodiments

¹²
In FIGS. 1-~~13~~, an exercise apparatus enables simulating a variety of sports activities for the purpose of training. The apparatus has an inclined monorail 29 attached

In FIGS. 1,3, 5, 8,11, ^{and} 12, ~~and 13~~ the body support means comprises an elongated padded bench 110 contoured to cradle the body of the user lying on the bench and sufficiently wide to accommodate a wide range of body sizes while tapering in the front to provide greater freedom of movement of the arms and maximum stability for use in simulated swimming movements.

In FIG. 1, a U-shaped rear foot support 120, having a rigid transverse foot bar 121 and two rigid longitudinal supports 122 bolted to the underside of the rear of the roller carriage 33, is capable of being removably attached to the padded bench and extending toward the rear of the apparatus in the plane of the padded bench to support the feet of the user for performing various types of exercises. A U-shaped front head support 125 with a rigid transverse head bar 121A, a head pad 126, and two rigid longitudinal supports 122A may be bolted to the underside of the front of the roller carriage 33. The head support 125 is capable of being removably attached to the padded bench and extending toward the front of the apparatus in the plane of the padded bench to support the head of the user for performing various types of exercises.

A foot platform 130 comprising a rigid upright planar surface is attachable to the rear support structure by a foot platform bracket 132 secured within the rear monorail bracket 27 inside end of the monorail and the foot platform 130 is held securely in an upright position by a rigid upright support 131 extending upwardly from the bracket 132 and extends upwardly perpendicularly to the monorail, so the user may push off the foot platform 130 with the feet while the user is mounted on the body support means.

⁵
In FIG. ~~13~~, the user (shown dashed) may stand sit or kneel adjacent to the invention and perform a variety of exercises by grasping any of a variety of handles, such as the bar or handle 98B, attached to the two ends of the cable 99 attached to the roller carriage 33 through the pulleys 92 and move the handle to pull on the cable and pull the roller carriage up the inclined monorail 29. One or more weights 106 added to the roller carriage 33 and a tension strap 100A attached between the roller carriage 33 and the rear support structure may be used to increase the resistance to rolling for developing greater strength.

¹³
In FIG. ~~14~~ an alternative roller carriage padded bench 110 has downwardly extending sides 190 with inwardly extending alternative larger roller wheels 180 rolling within recessed channels 185 in an alternate embodiment of the monorail 29A of an alternate embodiment of the invention of FIG. 1. A central vertical support 182 has a top and bottom arched plate 183 with the two side channels 185 supported therebetween. The roller motion is smoother and safer with the roller wheels 180 prevented from slipping out of the channels 185.

¹⁴
In FIG. ~~15~~ another alternative roller carriage padded bench has a plate 111A with a downwardly extending rectangular beam 233 secured to the underside of the plate and an axle 201 extending through openings 211 in the beam supporting large wheels 200 on each side. The wheels 200 roll within another alternate monorail 229 of an alternate embodiment of the invention of FIG. 1. The monorail is a rigid elongated rectangular element having a hollow interior with a top opening 230 running along its length to permit

the roller carriage wheels 200 to roll within the monorail 200 with the rectangular beam 233 of the roller carriage extending out through the top opening 230 and moving therein as the roller carriage moves along the length of the monorail 229.

In FIGS. ¹⁵~~16~~ and ¹⁵~~16A~~, an alternate embodiment the front stanchion has telescoping elements 1A and 7A formed of elongated hollow elliptical or oval steel elements slidably fit together. In FIG. ¹⁵~~16~~, a safety locking pin 150, similar to that of FIG. 6, is formed of rigid metal and has a straight insertion portion 151 insertable through opening 60 in the front stanchion support 7A and through openings 2 in the telescoping tube 1A, and an L-shaped arm 152 which drops down onto the quick release screw mechanism 11 and is secured by the tightening of the quick release mechanism 11. The quick release assembly 11 includes a threaded housing 71A into which the threaded screw 12 of the quick release mechanism is threaded. The housing 71A is fixedly attached to the sleeve of the stanchion 7A around an orifice through sleeve preferably along the narrow edge of the stanchion 7A. To lock members 1A and 7A together, the threaded screw 12 of the quick release mechanism engage with the threads of housing 71A so as to advance the screw 12 inward through the orifice into direct contact with the telescoping tube 1A. The threaded screw 12 may be unscrewed (away from the telescoping tube 1A) to release the telescoping tube 1A from the sleeve of the stanchion 7A. The combination of a safety pin and quick release assembly shown in FIG. ¹⁵~~16~~ may be employed at any of the adjustment points of the inventive system.

In FIGS. ¹⁵~~16~~ and ¹⁵~~16A~~, a straight pin 150A is inserted through the openings 60 in the stanchion 7A and the openings 2 in the tube 1A and the quick release screw mechanism 11 works the same way as in FIG. ¹⁵~~16~~ except that it does not engage the pin. The combination of a safety pin and quick release assembly shown in FIGS. ¹⁵~~16~~ and ¹⁵~~16A~~ may be employed at any of the adjustment points of the inventive system.

A structural object of the present invention is to provide all of the components of the apparatus with a rust-proof exterior surface to allow the apparatus to be placed in a high moisture or corrosive environment, especially important if the machine is used in a damp environment, such as adjacent to a pool or near ocean air. It is preferred to fabricate the frame parts of stainless steel or regular steel that is coated in powder coat epoxy or aluminum or plastic (molded or extruded) and a monorail that is made from either stainless steel, aluminum or chrome plated steel depending on the model for durability and greater resistance to corrosion.

The foregoing is merely illustrative and explanatory of the inventive apparatus. Various changes in the component materials, sizes and shapes, and other details of the embodiments described herein may be within the scope of the appended claims.